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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,392	03/07/2002	Teruo Kaganoi	059729-0117	8674
22428	7590	12/07/2005	EXAMINER	
FOLEY AND LARDNER LLP			DYKE, KERRI M	
SUITE 500			ART UNIT	
3000 K STREET NW			PAPER NUMBER	
WASHINGTON, DC 20007			2667	

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

JK

Office Action Summary	Application No. 10/091,392	Applicant(s) KAGANOI ET AL.	
	Examiner Kerri M. Dyke	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/6/04 & 8/6/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The abstract of the disclosure is objected to because it appears to exceed the 150-word limit. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitation "information" in lines 16 and 25. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 1-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hariguchi (US 6,181,698) in view of Nakamura et al. (US 6,553,031) further in view of Hayashi (US 6,741,596).
8. In regards to claim 1, Hariguchi discloses a packet processing unit for outputting a packet to a transmission channel after performing destination address on said packet received from said transmission channel, comprising:
 - a. packet receiving means for outputting the packet received via said transmission channel in the form of cells of a fixed length (figure 3.90),
 - b. search key extracting means for extracting a predetermined search key from said cells received from said packet receiving means (figure 3.94),
 - c. CAM for performing retrieval based on said search key extracted in said search key extracting means and outputting memory address corresponding to said key (figure 3.230)
 - d. associative data storing means for storing at least destination information and for outputting the information stored in the input memory address (figure 3.106),
 - e. associative data reading means for calculating the memory address of said associative data storing means based on said memory address received from said CAM and supplying the memory address to said associative data storing means (figure 3.102),
 - f. destination address means for performing destination address of a particular cell based on the information of said associative data storing means read by said associative data reading means (figure 3.108).

Hariguchi does not disclose splitting a variable length packet into fixed length cells, reassembling the cells into the packet after processing, or performing pipeline processing.

Nakamura discloses splitting variable length packets into fixed length cells in column 4 lines 60-63. Reassembling the cells into a packet for transmission is disclosed in column 5 lines 5-7.

It would have been obvious to one of ordinary skill in the art to include Nakamura's packet split/reassemble procedure in Hariguchi's cell processing unit because doing so conserves circuitry as taught by Nakamura in column 6 lines 62-64. If a variable length packet were to be allowed the bit width would need to be much larger, which would require more input lines.

Hayashi discloses using pipeline processing.

It would have been obvious to one of ordinary skill in the art to use Hayashi's pipeline processing as the processing method in Hariguchi's processing unit because pipeline processing allows for the processing of a large volume of data quickly, as taught by Hayashi in column 1 lines 20-22.

9. In regards to claim 2, Hariguchi, Nakamura, and Hayashi disclose a packet processing unit as claimed in claim 1, wherein duration of each stage of said packet receiving means, search key extracting means, CAM, associative data storing means, associative data reading means, destination address means and packet transmitting means are set at not more than arriving time interval of the packet input in said packet receiving means (Hayashi column 1 lines 59-62).

10. In regards to claim 3, Hariguchi, Nakamura, and Hayashi disclose a packet processing unit as claimed in claim 2, wherein processing time of said packet receiving means, search key extracting means, CAM, associative data storing means, associative data reading means,

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destination address means and packet transmitting means are set at not more than the duration of each stage (Hayashi column 1 lines 59-62).

11. In regards to claim 4, Hariguchi, Nakamura, and Hayashi disclose a packet processing unit as claimed in claim 3, comprising maintenance means for performing maintenance of at least one of said CAM or said associative data storing means during idle time of said stage (Nakamura figure 8).

12. In regards to claims 5 and 7-9, Hariguchi, Nakamura, and Hayashi disclose a packet processing unit as claimed in claims 1 through 4, comprising buffer means for a timing adjustment between said transmission channel and said packet receiving means and between said transmission channel and said packet transmitting means. Hariguchi (figures 8 and 13 elements 300/302) and Hayashi (figure 1.20 and 1.2n) each disclose input/output buffers. Buffers are inherently capable of adjusting timing by adjusting their rate of output.

13. Claims 6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hariguchi (US 6,181,698) in view of Nakamura et al. (US 6,553,031) further in view of Hayashi (US 6,741,596) further in view of Takase et al. (US 6,411,620).

14. In regards to claims 6 and 10-13, Hariguchi, Nakamura, and Hayashi disclose a packet processing unit as claimed in claims 1 through 5, but not comprising arithmetic processing means for performing a predetermined process with respect to said cells in at least one of a following step to said packet receiving means or a preceding step to said packet transmitting means.

Takase discloses an arithmetic processing means in the form of error detection in figure 11.44.

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It would have been obvious to one of ordinary skill in the art to include Takase's error detection means in the packet-processing unit of Hariguchi, Nakamura, and Hayashi because it is desirable to detect and correct errors.

Conclusion


15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Both Uzun and Michels et al. disclose packet-processing units.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Dyke whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Friday, 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kmd


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12/5/05